**Minds-On for the Unit – Gases and Atmospheric Chemistry**

### Opening:

### What is gas? (watch <http://www.youtube.com/watch?v=btGu9FWSPtc> or something similar if desired to be tongue-in-cheek, or something more informative if trying to be serious – lots of videos on YouTube)

### Are gases heavy? Let’s see!

### Materials:

* 1 Empty soda can
* Hot plate/Bunsen Burner/Propane torch
* Tongs
* Bowl/basin
* Cold water (ice water if possible)

**Procedure:**

1. Fill the bowl with cold water.
2. Pour in just enough water to cover the bottom of the can
3. Place the can on the hot plate, (in a hot water bath if done ahead of time).
4. Heat the can until steam rises from the opening
5. Continue heating ~1minute
6. Hold the base of the can with the tongs
7. Quickly invert can into the cold water bath (open end first)
8. Can implodes from the rapid condensation of water vapour generating a low pressure inside the can insufficient to resist the atmospheric pressure

**Safety Notes:**

Hot plate will be very hot

**Follow-Up:**

55 gallon drum implosion: <http://www.youtube.com/watch?v=JsoE4F2Pb20&feature=related>

Tanker truck implosion:

<http://www.youtube.com/watch?v=h5l0K62n8B4>

**Teacher Notes:**

Used to “hook” the gases unit. Teacher should use this to play up the power contained within gases/pressure, as students may feel that since gases are around them at all times and they feel nothing, that they aren’t very “heavy”. Use videos after the demo to illustrate that this can occur on the larger scale.